



རྒྱལ་ཁོངས་རྒྱུ་ལྷན་པོ་གཞི་རྒྱུ་ལྷན་པོ་འཛུགས་པའི་འཛུགས་ཁུངས་  
 HYDROLOGY & WATER RESOURCES SERVICES DIVISION  
 NATIONAL CENTER FOR HYDROLOGY & METEOROLOGY  
 THIMPHU: BHUTAN



Status and River Level Trends:

Wednesday, August 21, 2019

Issued at: 10:00 AM

Glacier Lake Outburst Flood (GLOF) Early Warning System

1. Punaatshang Chhu Sub Basin

SI Nos.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded	Alert Water Level	Alarm Water Level	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Downstream Settlement
1	Basin II	Punaatshang Chhu	Pho Chhu	Luggay Tsho		7.80	10.00	6.68	6.68	0.00	Thanza, Tenchey, Lhedi and Lunana area and Downstream of Pho Chhu and Puna-Wangdue Valley
2				Thorthormi Tsho		7.50	5.00	5.86	5.86	0.00	
3				Rapstreg Tsho		7.40	5.00	6.31	6.33	0.02	
4				Bay Tsho		7.40	5.00	6.48	6.59	0.11	
5				Thanza		7.70	8.70	NR	NR	#VALUE!	
6				Tarina Wachey		8.50	10.50	6.96	6.93	-0.03	Pho Chhu Valley (Tamidanchu, Wolathang, Samdingkha, Khawajara, Shengna, Kharuthang) Puna-Wangdue Valley and Downstream
7				Dangsa		5.50	7.00	4.76	4.73	-0.03	
8				Taksemakhang		7.50	8.50	5.83	5.82	-0.01	
9				Tashithang		9.00	10.50	6.88	6.75	-0.13	
10				Yebesa		5.00	7.00	2.19	2.16	-0.03	

Approximate Lead Time for Evacuation after the detection of flood at Four lake Sensor							Approximate Lead Time for Evacuation after the detection of flood at Dangsa Sensor				
SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Distance from Sensor (Rapstreg Tsho)	Approx. Distance from Sensor (Thorthormi Tsho)	Approx. Distance from Sensor (Luggay Tsho)	Approx. Time available for Evacuation	SI Nos	Name of Place Downstream	Approx. Distance from Sensor (Bay Tsho)	Approx. Time for Flood to reach at the Place	Approx. Time available for Evacuation
1	Thanza	1.5 km	2.8 km	3.3 km	6.7 km	20-60 minutes	1	Wolathang	5.8 km	30 minutes	30 minutes
2	Tenchey	2.9 km	4.1 km	4.6 km	8.2 km		2	Samdingkha	12.0 km	55 minutes	55 minutes
3	Tshojo	8.1 km	10.0 km	10.5 km	13.8 km		3	Punakha Dzong	20 km	90 minutes	1 hours 30 minutes
4	Lhedi	16.7 km	17.6 km	18.5 km	21.8 km		4	Kharuthang Town	24 km	120 minutes	2 hours
5	Puna-Wangdue Valley	100 km	100 km	100 km	100 km		5-7 hours	5	Bajo Town	30.5 km	145 minutes
							6	Wangdue Bridge	33 km	150 minutes	2 hours 30 minutes

NOTE: The above distance were Calculated from basic tools in the Google Earth Map, thus diastance were approximate only.

Glacier Lake Outburst Flood (GLOF) & Rainstorm Flood Early Warning System.

2. Chamkhar Chhu and Mangdue Chhu Sub Basin

SI Nos.	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Alert Water Level (m)	Alarm Water Level (m)	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Downstream Settlement	
1	Basin III	Manas	Chamkhar Chhu	Tshampa		5.00	6.50	4.39	4.38	-0.01	Chokortoe Pry School, Kurjey Village, Wangdicholing, Chamkhar Town, Gangritang Pry School, Gyelkhar Village and Downstream settlement under Zhenfgang.	
2				Khagthang		5.50	6.00	4.81	4.82	0.01		
3				Kurjey		5.72	3.30	5.00	2.40	2.49		0.09
4				Jongthang		5.90	7.00	4.99	5.14	0.15		
5				Bjizam		5.52	4.20	5.50	2.70	3.09		0.39
			Mangdue Chhu								Bjizam Community, MHPA Dam, Power House and Downstream settlement of Trongsa and Zhenfgang.	

Approximate Lead Time for Evacuation of Chamkhar Chhu Sub Basin					Approximate Lead Time for Evacuation of Mangdue Chhu Sub Basin						
Approximate Lead Time for Evacuation after the detection of Flood at the Tshampa AWLS					Approximate Lead Time for Evacuation after the detection of Flood at the Jongthang AWLS						
SI Nos	Name of Place Downstream	Approx. Distance from the Tshampa AWLS	Approx. Cumulative Distance from Tshampa AWLS	Elevation	Approx. Lead Time	SI Nos	Name of Place Downstream	Approx. Distance from the Tshampa AWLS	Approx. Cumulative Distance from Tshampa AWLS	Elevation	Approx. Lead Time
1	Khagthang	20.3 km	20.3 km	3704 m	27 minutes	1	Bjizam	18.5 km	18.5 km	2223 m	34 minutes
2	Chorkhor Toe PS	4.5 km	24.8 km	2904 m	34 minutes	2	Dam Site	7.8 km	26.3 km	1848 m	50 minutes
3	Kurjey	12.4 km	37.2 km	2771 m	60 minutes	3	Power Plant	20.4 km	46.7 km	1024 m	88 minutes
4	Wangdicholing	5.7 km	42.9 km	2600 m	79 minutes						
5	Bumthang	1 km	43.9 km	2562 m	83 minutes						
6	Gangritang PS	0.3km	44.2 km	2552 m	84 minutes						
7	Gyelkhar	1.7 km	45.9 km	2538 m	91 minutes						

3. River Level Status of Gauging Station

Sl Nos.	Station Type	River Basin Number	Basin Name	Name of River	Station Name	Highest Water Level Recorded (m)	Water Level (m) recorded at 9 AM Yesterday	Water Level(m) recorded at 9 AM Today	Water Level Rise (+)/Fall (-) in meters during last 24 Hrs ending at 9 AM Today	Weather Condition	Downstream Settlement		
1	AWLS	Basin I	Wang Chhu	Thin Chhu	Dodena		2.01	1.97	-0.04	Sunny	Thimphu Valley and Downstream		
2	Principal				Lungtenphu	2.82	1.37	1.34	-0.03	Sunny			
3	Principal				Damchu	6.00	2.89	2.82	-0.07	Sunny			
4	Secondary			Basin II	Punatshang Chhu	Haa Chhu	Haa	2.60	1.16	1.09	-0.07	Sunny	Haa and Wang Chhu Downstream
5	Principal						Pa Chhu		1.45	1.39	-0.06	Sunny	Downstream of Paro Valley and Wang Chhu Basin
6	Principal					Amo Chhu	Dorokha		3.30	3.35	0.05	Sunny	Samse, Phuntsholing and Downstream
7	Secondary						Droyagang	7.07	3.49	3.33	-0.16	Sunny	Phuntsholing and Downstream
8	Secondary						Samdingkha	6.10	4.10	4.08	-0.02	Sunny	Puna-Wangdue Valley and Downstream
9	Principal	Basin III	Manas	Mo Chhu	Yebesa	3.94	2.16	2.13	-0.03	Sunny	Mo Chhu Valley and Downstream		
10	Secondary				Wangdue Bridge		2.85	2.62	-0.23				
11	Principal			Punatshang Chhu	Wangdue Rapid	7.82	3.32	3.25	-0.07	Sunny	PHPA I/PHPA II and Downstream		
12	Principal				Turihar Sunkosh		6.68	3.40	3.25	-0.15	Partly Cloudy	Downstream of Dugana and Lhamoizingkha	
13	Secondary					Sunkosh Bridge		2.65	2.55	-0.10	Cloudy		
14	Principal				Kerabari	11.90	5.68	5.57	-0.11	Sunny	Lhamoizingkha and Downstream		
15	Secondary			Mao Chhu	Sherzhong		4.15	4.15	0.00	Sunny	Gelelephu Valley and Downstream		
16	Principal			Basin III	Manas	Mangdue Chhu	Bjizam	5.35	2.70	3.12	0.42	Sunny	MHPA Dam, Power House and Downstream of Trongsa & Zhemgang
17	Secondary	Dakpai Chhu	2.26				1.46	1.58	0.12	Sunny	Downstream of Zhemgang and Panbang		
18	Principal	Tingtibi	7.45				4.00	3.88	-0.12	Sunny			
19	Principal	Chamkhar Chhu	Kurjey			4.00	2.40	2.49	0.09	Sunny	Chamkhar Valley, Zhemgang and Downstream		
20	Principal		Shingkar (Bemshang)				2.24	2.25	0.01		Zhemgang and Downstream		
21	Principal	Kuri Chhu	Sumpa			7.65	4.55	4.68	0.13	Sunny	Lhanse Downstream, Kurizampa, KHPA and Downstream along the Kuri Chhu		
22	Secondary		Khoma			5.30	1.97	2.03	0.06				
23	Secondary		Autsho			8.48	4.47	4.64	0.17	sunny with cloudy			
24	Principal		Kurizampa			18.45	9.61	8.69	-0.92	Sunny			
25	Principal	Kholong Chhu	Muktirap			6.00	2.31	2.25	-0.06	clear	Doksum, Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu		
26	Secondary	Drangme Chhu	Doksum		4.32	4.32	0.00	Sunny	Kholong Chhu Hydro Power Project and Downstream of Gongri Chhu				
27	Secondary		Chazam		8.55	8.50	-0.05	Sunny	Downstream Settlement of Kuri-Gongri and Panbang				
28	Principal		Omzong	6.75	3.18	3.10	-0.08						
29	Secondary		Sheri Chhu	2.58	1.55	1.55	0.00	clear	Downstream of Kuri-Gongri and Panbang				
30	Principal		Panbang	12.48	6.20	5.97	-0.23	Sunny	Manas and Downstream				
31	Principal	Ngara Ama Chhu	Pangzam		6.04	6.25	0.21	Sunny	Bangtar Settlement and Downstream				
32	Principal		Bangtar		2.57	2.55	-0.02	sunny	Downstream of Bangtar Settlement				

NOTE The Water Level are relative Gauge Hight of the Observation site reference to the Site Specific and doesnot represent the actual water depth.

ALERT

MISSING

NR Represent that the Data has not been reported or Not Updated

ISSUED BY: FMCR,HWRS&NCHM